



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

400 Seventh St., S.W.  
Washington, D.C. 20590

**IAEA CERTIFICATE OF COMPETENT AUTHORITY  
SPECIAL FORM RADIOACTIVE MATERIALS  
CERTIFICATE NUMBER USA/0657/S, REVISION 2**

This certifies that the source described has been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency<sup>1</sup> and the United States of America<sup>2</sup> for the transport of radioactive materials.

1. Source Identification - AEA Technology QSA, Inc. Model X.103 (Manufactured on or after December 9, 1991).
2. Source Description - Cylindrical single encapsulation made of Type 316 stainless steel and tungsten inert gas seal welded. Approximate exterior dimensions are 2.9 mm (0.11 in.) in diameter and 30.4 mm (1.2 in.) in length. Minimum wall thickness is 0.225 mm (0.009 in.). Construction shall be in accordance with attached AEA Technology QSA, Inc. Drawing No. RBA62475, Rev. A.
3. Radioactive Contents - No more than 5.18 GBq (140.0 mCi) of Americium-241. The Am-241 is in oxide form and combined with molten glass and cooled to form a glass bead.
4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations<sup>1</sup> shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.
5. Expiration Date - This certificate expires December 31, 2008. On December 31, 2004, this certificate supersedes, in its entirety, all previously issued revisions of USA/0657/S.

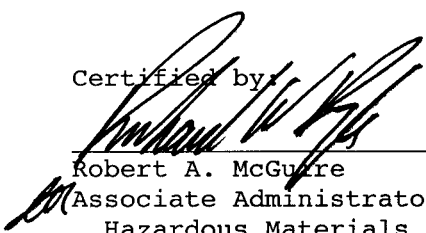
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1 "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

2 Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

**CERTIFICATE USA/0657/S, REVISION 2**

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the petition and information dated October 18, 2004 submitted by AEA Technology QSA, Inc., Burlington, MA, and in consideration of other information on file in this Office.

Certified by:

  
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Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

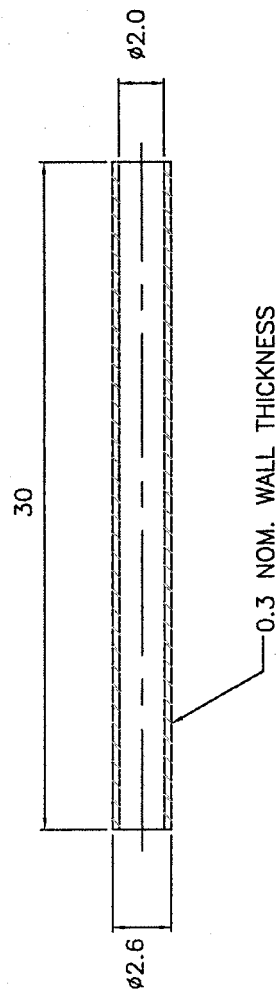
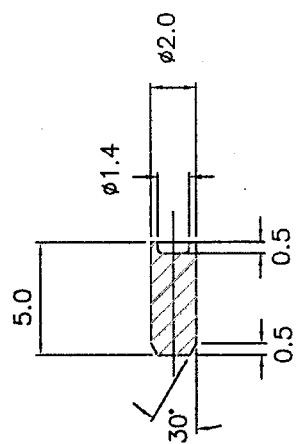
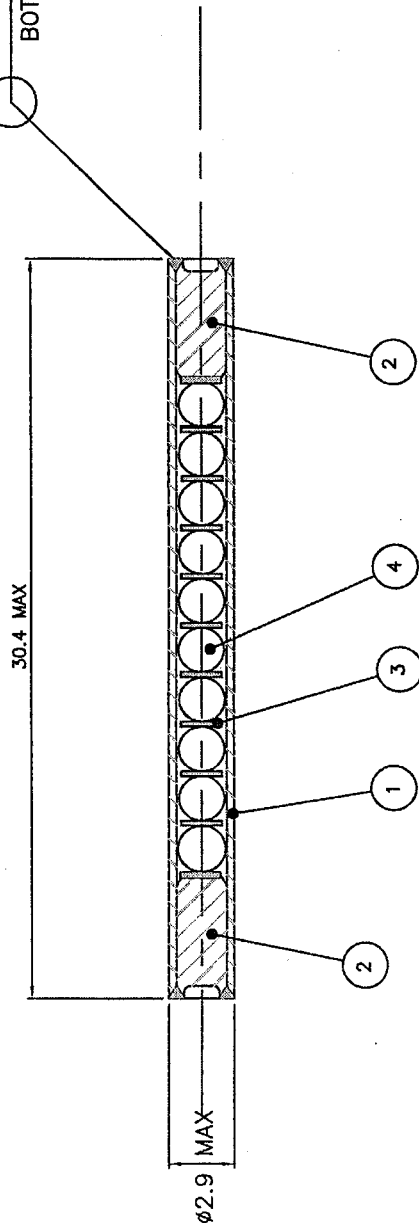
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(DATE)

Revision 2 - Issued to specify manufacturing dates.

ITEM No.	DESCRIPTION	No. OFF
1	BODY	1
2	PLUG	2
3	CERAMIC FIBRE PACKING	A/R
4	AM241 GLASS BEADS $\phi$ 1.9 MM	A/R

TIG WELD  
BOTH ENDS



PLUG  
MATERIAL - 316/316L STAINLESS STEEL

BODY  
MATERIAL - 316/316L STAINLESS STEEL

		<b>DESCRIPTIVE DRAWING</b>	
40 NORTH AVE, BURLINGTON, MA 01803		<b>TITLE</b> X103 CAPSULE ASSEMBLY	
<b>APPROVALS</b> R. Munn 18 Nov 03 L. P. P. 21 Nov 03		<b>SIZE</b> DWG. NO. RBA62475 <b>A</b>	
DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED TOLERANCES: X $\pm 0.5$ X.X $\pm 0.1$ X.XX $\pm 0.05$ ANGULAR $\pm 5^\circ$		<b>REV</b> A <b>SCALE:</b> NONE <b>SHEET</b> 1 OF 1	

ERF # 710